Operating Instructions
AR Evaluation Unit
CES-AR-AES-12

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Correct use

The AR evaluation unit is used for the central evaluation of safety-related signals in AR switch chains.

In combination with a separating safety guard and the machine control, this safety component prevents dangerous machine movements from occurring while the safety guard is open. A stop command is triggered if the safety guard is opened during the dangerous machine function or if guard locking is deactivated.

Before safety switches are used, a risk assessment must be performed on the machine in accordance with:

- EN ISO 13849-1, Safety of machinery. Safety related parts of control systems. General principles for design
- EN ISO 12100, Safety of machinery – General principles for design – Risk assessment and risk reduction.
- IEC 62061, Safety of machinery. Functional safety of safety-related electrical, electronic and programmable electronic control systems.

Correct use includes compliance with the relevant requirements for installation and operation, in particular

- EN ISO 13849-1, Safety of machinery. Safety related parts of control systems. General principles for design
- EN 1088, Safety of machinery. Interlocking devices associated with guards. Principles for design and selection
- EN 60204-1, Safety of machinery. Electrical equipment of machines. General requirements
- EN 60947-5-3 Specification for low-voltage switchgear and controlgear. Control circuit devices and switching elements. Requirements for proximity devices with defined behavior under fault conditions

Only safety switches that are suitable for operation in an AR switch chain can be evaluated. Check the operating instructions for the related safety switch. Combination with devices that are not suitable for use in an AR switch chain or with devices from other manufacturers is not permitted. A maximum of 12 safety switches in an AR switch chain can be connected to the AR evaluation unit *CES-AR-AES-12*.

Unicode and *Multicode* version switches can be connected. *Unicode* and *Multicode* versions can be combined in an AR switch chain.

Important!

- The user is responsible for the integration of the device into a safe overall system. For this purpose, the overall system must be validated, e.g. in accordance with EN ISO 13849-2.
- Correct use requires observing the permissible operating parameters (see Technical data).
- If a product data sheet is included with the product, the information on the data sheet applies in case of discrepancies with the operating instructions.
- In the estimation of the PL for the overall system, a maximum value of 100 years can be assumed for the $MTTF_d$ according to the limit value in EN ISO 13849-1:2008, section 4.5.2. This corresponds to a minimum value for the PFH_d of $2.47x10^{-8}$/h.
- When up to 11 devices are connected in series, these limit values can be assumed for the entire switch chain as a subsystem. As a subsystem, this switch chain achieves PL e.

Important!

- In the case of series connection of more than 11 switches in a chain, the PFH_d can be calculated according to one of the stated methods in EN ISO 13849-1:2008, Section 4.5.1.
- If the simplified method according to Section 6.3 of EN ISO 13849:2008-12 is used for validation, the Performance Level (PL) might be reduced when more than 11 devices are connected in series.
- It is only allowed to use components that are permissible in accordance with the table below.

Possible combinations on the AR evaluation unit

Evaluation unit	Safety switch	Actuator								
		CES-A-BBA 071 840	**CES-A-BCA** 088 786	**CES-A-BPA** 098 775	**CES-A-BRN** 100 251	**CES-A-BLN-R2-100776** 100 776	**CES-A-BLN-L2-104510** 104 510	**CES-A-BLN-U2-103450** 103 450	**CES-A-BDN-06-104730** 104 730	**CET-A-BWK-50X** 096 327
AR evaluation unit CES-AR-AES-12 098 225	**CES-AR-C01...** from V1.1.2 (see rating plate on the device)	●	●	●	●					
	CES-AR-CR2... from V1.1.2 (see rating plate on the device)					●		●	●	
	CES-AR-CL2... from V1.1.2 (see rating plate on the device)						●	●	●	
	CET1/2-AR... from V1.1.2 (see rating plate on the device)									
	CET3/4-AR... from V1.0.0 (see rating plate on the device)									

Key to symbols	
● / ●	Combination possible / combination on request
	Combination possible, guard locking for process protection
/	Combination possible, guard locking for personal protection / combination on request
	Combination not permissible

Exclusion of liability and warranty

In case of failure to comply with the conditions for correct use stated above, or if the safety instructions are not followed, or if any servicing is not performed as required, liability will be excluded and the warranty void.

General safety instructions

Safety switches fulfill personal protection functions. Incorrect installation or tampering can lead to severe injuries to personnel.

The number of teach-in and switching operations is saved in the internal memory in the AR evaluation unit. If necessary, this memory can be read by the manufacturer.

Check the safe function of the safety guard particularly

- after any setup work
- after the replacement of a CES component
- after an extended period without use
- after every fault

Independent of these checks, the safe function of the safety guard should be checked at suitable intervals as part of the maintenance schedule.

Warning!

Danger of fatal injury in the event of incorrect connection or incorrect use.

- Safety switches must not be bypassed (bridging of contacts), turned away, removed or otherwise rendered ineffective.
  On this topic pay attention in particular to the measures for reducing the possibility of bypassing from EN 1088:1995+A2:2008, Section 5.7.

The device is only allowed to be installed and placed in operation by authorized personnel

- who are familiar with the correct handling of safety components
- who are familiar with the applicable EMC regulations
- who are familiar with the applicable regulations on health and safety and accident prevention
- who have read and understood the operating instructions.

Important!

Prior to use, read the operating instructions of the CES component used and keep them in a safe place. Ensure the operating instructions are always available during mounting, setup and servicing. EUCHNER cannot provide any warranty in relation to the readability of the CD/DVD for the storage period required. For this reason you should archive a printed copy of the operating instructions. You can download the operating instructions from www.EUCHNER.de.

Function

The AR evaluation unit is used to evaluate the individual safety switches in an AR switch chain and to reliably interrupt a safety circuit.

The unit has two inputs for the connection of an AR switch chain. The safety contacts are switched as a function of the input signals. Downstream parts of the safety circuit can be monitored using a feedback loop.

The switching states of the connected safety switches can be signaled by means of monitoring outputs.

If the actuator on one of the safety switches in the AR switch chain is moved out of the operating distance or if guard locking is deactivated, the AR evaluation unit opens its relay contacts and the corresponding monitoring output is switched off.

The system is designed so that failures will not result in the loss of the safety function. The occurrence of failures is detected by cyclic self-monitoring at the latest at the next demand to close the safety contacts.

The system can be started either manually using a start button or automatically.

Block diagram CES-AR-AES-12

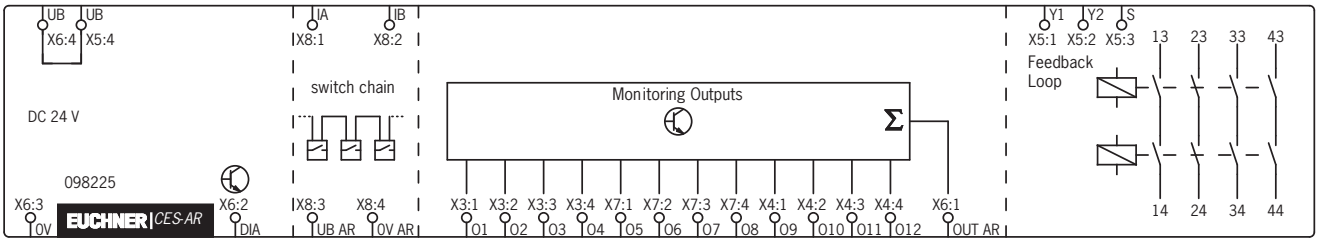


Fig. 1: Block diagram AR evaluation unit

Mounting

Caution!

Safety switches must not be bypassed (bridging of contacts), turned away, removed or otherwise rendered ineffective.

- On this topic pay attention in particular to the measures for reducing the possibility of bypassing according to EN 1088:1995.A2:2008, sec. 5.7.
- The AR evaluation unit must be mounted in a control cabinet with a minimum degree of protection of IP 54. A snap-in element on the rear of the device is used for fastening to a DIN rail.
- If several evaluation units are mounted side by side in a control cabinet without air circulation (e.g. fan), a minimum distance of 10 mm must be maintained between the evaluation units.
  This distance enables the heat from the evaluation unit to dissipate.

Important!

Follow the mounting instructions in the accompanying documents for the safety switches connected.

Electrical connection

Warning!

In case of an error, loss of the safety function through incorrect connection.
- Monitoring outputs must not be used as safety outputs.
- Lay the connection cables with protection to prevent the risk of short circuits.

Caution!

Risk of damage to equipment or malfunctions as a result of incorrect connection.
- All the electrical connections must either be isolated from the mains supply by a safety transformer according to IEC 61558-2-6 with limited output voltage in the event of a fault, or by other equivalent isolation measures (PELV).
- For use and operation as per the cULus requirements, a power supply with the feature "for use in class 2 circuits" must be used. The same requirement applies to the safety outputs.
  Alternative solutions must comply with the following requirements:
  a) Electrically isolated power supply unit with a max. open-circuit voltage of 30 V/DC and a limited current of max. 8 A.
  b) Electrically isolated power supply unit in combination with fuse as per UL248. This fuse should be designed for max. 3.3 A and should be integrated into the 30 V/DC voltage section.
- All electrical outputs and safety contacts must have an adequate protective circuit for inductive loads. The outputs must be protected with a free-wheeling diode for this purpose.
- The tightening torque for the screws on the connection terminals must be 0.6 ... 0.8 Nm.
- In order to avoid EMC interference, the physical environmental and operating conditions at the installation site of the device must comply with the requirements according to the standard EN 60204-1:2006, section 4.4.2 (EMC).
- Please pay attention to any interference fields in case of devices such as frequency converters or induction heating systems. Observe the EMC instructions in the manuals from the respective manufacturer.

Safety in case of faults

- The operating voltage U_B is reverse polarity protected.
- The connections UB AR and 0V AR for the read heads are not short circuit-proof.
- A short circuit between safety contacts can only be detected by external pulsing.
- A short circuit in the cable can be excluded by laying the cable with protection.

Power supply

The power supply of 24 V DC is supplied to the AR evaluation unit. The AR switch chain must be supplied with DC 24 V DC by the AR evaluation unit.

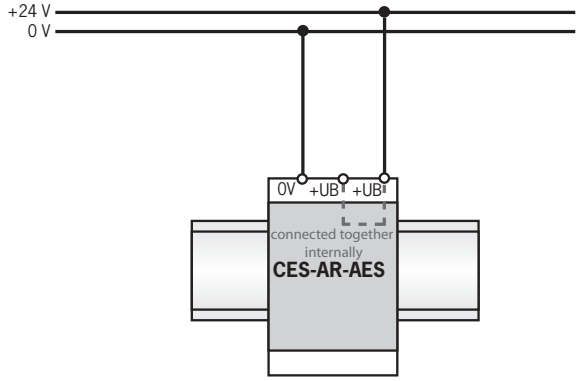


Fig. 2: Power supply

Connecting AR switch chain

The AR evaluation unit has two safety inputs to which the AR switch chain is connected. Safety inputs IA and IB have short circuit and earth fault monitoring.

The AR switch chain must be supplied by the AR evaluation unit (terminals UB_{AR} and $0V_{AR}$). An additional power supply may be required for these safety switches (e.g. for guard locking), depending on which safety switches are used in the AR switch chain (see Figure 5). In case of switches with guard locking, the supply for the guard locking solenoid must be at the potential of the AR evaluation unit. Information on this is provided in the operating instructions of the respective safety switch.

Important!

A maximum of 12 safety switches can be connected.
Only safety switches that are suitable for operation in an AR switch chain can be connected.
Safety switches with start input are not suitable for connection to an AR evaluation unit.
In the case Unicode switches, the actuators must be taught-in at the read head. See the operating instructions for the related safety switch.
For the AR system to function, a bridging plug must be connected to the first safety switch in the AR switch chain (or a jumper between IA, IB and UB_{AR}).

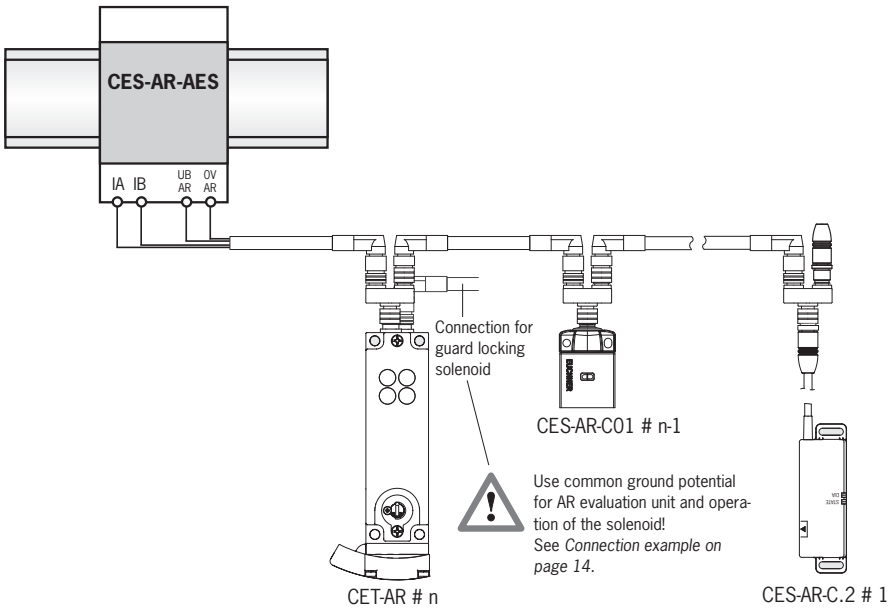

CES-AR-AES
IA IB
UB AR
0V AR
Connection for guard locking solenoid
CES-AR-C01 # n-1
Use common ground potential for AR evaluation unit and operation of the solenoid!
See Connection example on page 14.
CET-AR # n
CES-AR-C.2 # 1

Fig. 3: Schematic diagram showing connection of an AR switch chain

Starting behavior

The AR evaluation unit can be placed in operation either using the autostart mode or by starting it manually.

Important!

If the configuration for the starting behavior is changed during operation (e.g. jumper removed), this change will be detected by the unit. The AR evaluation unit assumes the fault state as soon as the next request to close the safety contacts is received (see section *Troubleshooting*).

Connection for monitored, manual start

For a monitored, manual start, a start button is connected to terminal *S*. The start button is supplied with a voltage of 24 V DC. The terminal *+UB* can be used for this purpose. A sticking start button, for example, will be detected by the monitoring function the next time the system is powered up.

The safety contacts close after max. 600 ms when the start button is pressed and then released again (falling edge) and if the actuators for all the safety switches connected are within the operating distance.

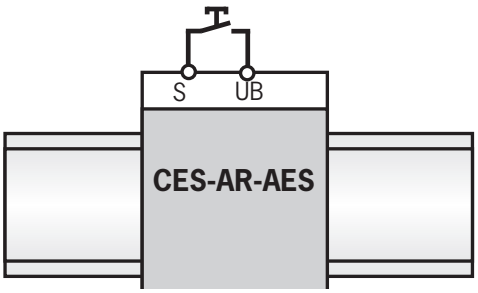


Fig. 4: Monitored, manual start

Important!

The start button is only allowed to be pressed approx. 8 s after power on. If the start button is pressed earlier, the unit will switch to the fault state and the LED *DIA* illuminates. The LED *STATE* flashes (see section *Troubleshooting*).

Connection for automatic start

Warning!

The safety contacts close immediately if all safety switches signal a safe state and the feedback loop is closed.

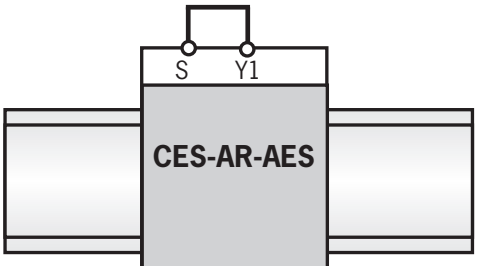


Fig. 5: Automatic start

For the autostart mode, a jumper must be connected between the terminals *S* and *Y1*.

By pulsing the output signal on Y1 the device detects short circuits on starting (e.g. static DC 24 V on input S).

Connecting safety contacts and feedback loop

Important!

If you do not connect the feedback loop, the downstream devices will not be monitored. This situation will affect the safety category of your system.

The unit has four redundant, positively driven safety contacts that switch off immediately if the actuator is removed at one of the connected safety switches or if a fault occurs. To check the switching state of a connected load, the auxiliary contacts on a contactor or relay can be connected to terminals *Y1* and *Y2* to form a feedback loop (see *Figure 6*).

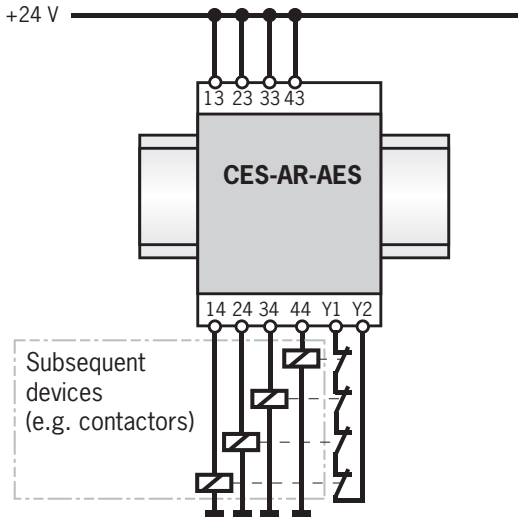


Fig. 6: Safety contacts and feedback loop connected

The unit detects external short circuits on the feedback loop at the start by pulsing the output signal on Y1 (e.g. static DC 24 V on the feedback loop).

If a feedback loop is not to be connected, a jumper must be fitted to the terminals *Y1* and *Y2* (see *Figure 7*).

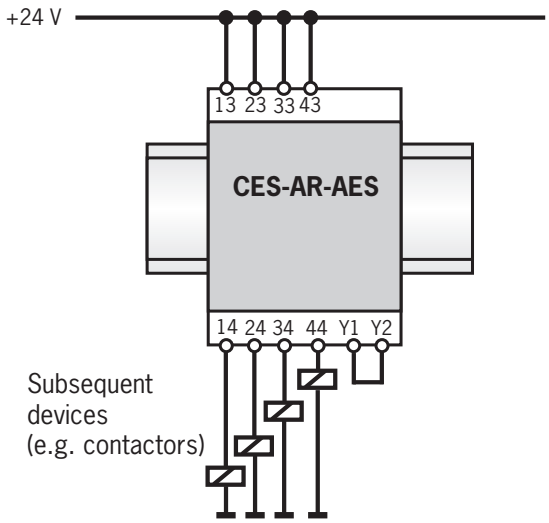


Fig. 7: Safety contacts connected and jumper on the feedback loop

The following conditions must be met for the safety contacts to be closed:

For manual start

- The feedback loop is closed
- The start button has been pressed and released (switches on falling edge)
- All safety doors closed

For automatic start

- The feedback loop is closed
- All safety doors closed

If the feedback loop is open, the *DIA* LED flashes and the *STATE* LED is lit (see section *Troubleshooting*). The monitoring output *DIA* is set.

The safety contacts remain open if the feedback loop is open at the start. The unit switches to fault state, the DIA LED illuminates, and the STATE LED flashes (see section Troubleshooting).

Connecting monitoring outputs on the AR evaluation unit

The AR evaluation unit has 14 short-circuit-proof semiconductor outputs that can be used to signal different operating states, e.g. to a PLC. If the monitoring output is active, a voltage of max. 24 V DC is present at the related terminal (referred to the potential at terminal *0 V*).

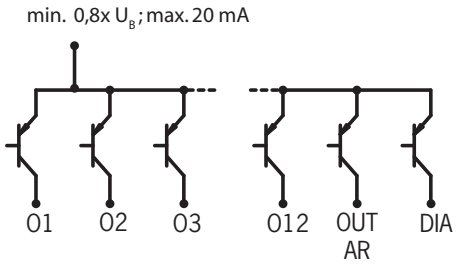


Fig. 8: Monitoring outputs CES-AR-AES

Significance of the signals with monitoring output active:

- *O1 ... O12*: Status of safety switches 1 ... 12
  (actuator at operating distance or guard locking status)
- *OUT AR*: All connected safety switches in state *Enable*.
  (All actuators in operating distance and all guard locking devices active)
- *DIA*: Fault on the AR evaluation unit or on a safety switch in the AR switch chain, or feedback loop was open during start (see section Troubleshooting)

Assignment of safety switches to monitoring outputs

At least one monitoring output is assigned to each safety switch in the AR switch chain. The safety switch with bridging plug has the monitoring output *O1*. From here, the output assignments are incremented up to the last switch in the chain.

Several monitoring outputs are occupied depending on the switch type, e.g. one monitoring output for the door position and one for the guard locking status.

The table below shows how many monitoring outputs the individual safety switches occupy.

Series	Number (type) of monitoring outputs
CES-AR	1 (door position, OUT or diagnostics DIA)
CET1/2-AR	1 (status of guard locking OUT)
CET3/4-AR	2 (door position OUT D and status of guard locking OUT)

Connection example

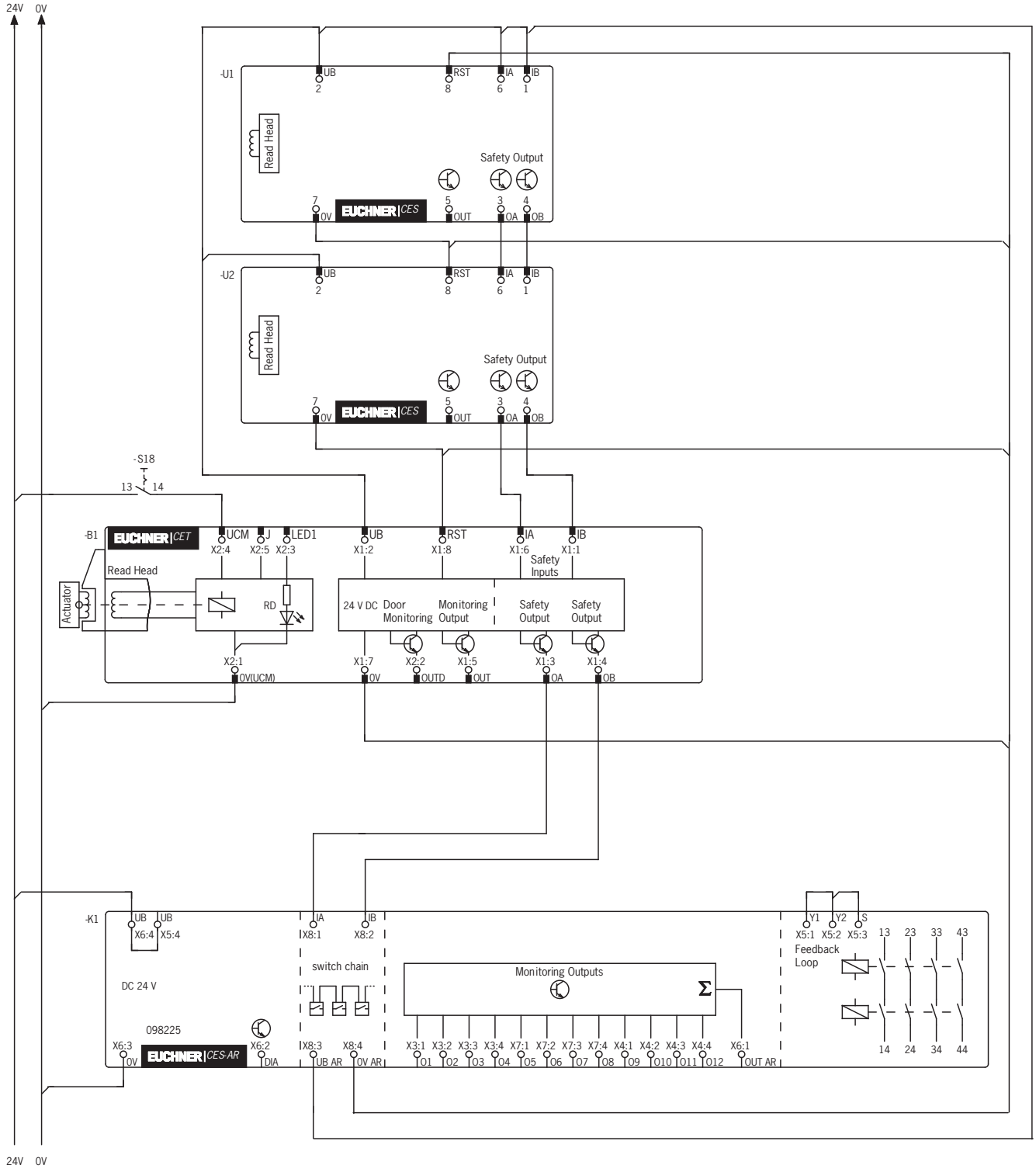


Fig. 9: Connection example for a mixed switch chain with 2 x CES-AR and 1 x CET-AR

Setup

Warning!

- Pay attention to the notes on commissioning and on the teach-in process in the operating instructions for the safety switch used.
- In case of devices with teach-in input, ensure the circuit is correct.

Proceed as follows:

1. Ensure nobody can be placed in danger during setup.
2. Prior to setup, check whether all connections are correct (jumpers connected, external circuit correct) and the AR switch chain is fitted with a bridging plug.
3. Close all safety guards and make sure that the feedback loop on the evaluation unit is closed.
4. Switch on the power supply.

➡ The switches in the chain are initialized on starting. Unicode switches that have not yet taught-in an actuator on starting, automatically teach-in the actuator. This process can take up to one minute.

➡ If the AR evaluation unit is set up for automatic start, the *OUT* LED flashes and signals that the self-test is being performed. After the self-test, the OUT and *STATE* LEDs are continuously lit.

or

➡ If you start the AR evaluation unit manually, the *STATE* LED flashes and signals that the self-test is being carried out. After the self-test, the *STATE* LED illuminates continuously. The *OUT* LED flashes, since no start command has been issued yet.

5. Press the start button (only necessary for manual start).
6. Then press the RST button on the AR evaluation unit for approx. 3 s to re-start the device.
7. Check the correct function of the safety circuits connected. In case of problems, see section *Troubleshooting*.

Important!

Use the status table in the section *Troubleshooting* to check the overall function. In addition, the status LEDs on the respective safety switches provide information about the status of the respective switch.

Status LEDs, control elements and terminal assignment

The AR evaluation unit has status LEDs for the most important operating states. The significance of the individual LED states is explained in the System Status table in the section *Troubleshooting*.

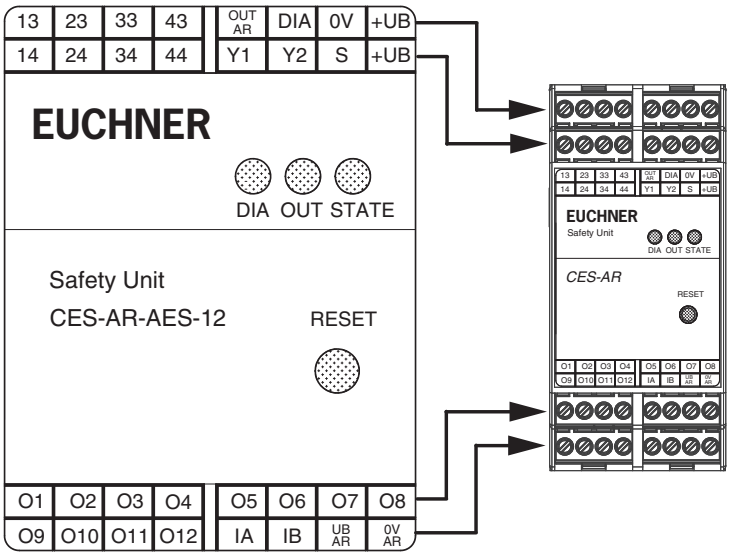

13 23 33 43 OUT AR DIA 0V +UB
14 24 34 44 Y1 Y2 S +UB
EUCHNER
DIA OUT STATE
Safety Unit
CES-AR-AES-12
RESET
O1 O2 O3 O4 O5 O6 O7 O8
O9 O10 O11 O12 IA IB UB AR 0V AR
CES-AR

Fig. 1: Terminal assignment, LEDs and reset button

LED indicators

LED	Color	Significance
STATE	green	Device status
OUT	yellow	Switch chain status
DIA	red	Fault display

Reset button

With the reset button pressed, the power supply for the AR evaluation unit and as a result for the entire AR switch chain is interrupted. After it is released, the AR evaluation unit and the switches connected restart with a self-test.

Troubleshooting

System status table

Operating mode	Actuator / guard position	Safety outputs OA and OB	Indicator LEDs: DIA (red)	Indicator LEDs: OUT (yellow)	Indicator LEDs: STATE (green)	Door monitoring outputs: OUT AR	Door monitoring outputs: DIA	State
Self-test	X	off	○	○	✳ 15 Hz (8 s)	off	off	Self-test after power up
Normal operation	open	off	○	○	☀	off	off	Normal operation, at least one door open
	closed	On	○	☀	☀	On	off	Normal operation, all doors closed
	closed	off	○	✳ 3 Hz	☀	On	off	Normal operation, all doors closed, start button not pressed or fault in the feedback loop
	closed	off	✳ 4 x	○	☀	On	On	Normal operation, all doors closed, feedback loop was open during attempt to start
	X	X	☀	X	✳ 7 x	off	On	Faulty data transmission for status signals (safety circuit not affected)
Fault display	X	off	☀	○	✳ 1 x	off	On	Fault in the AR switch chain (e.g. fault on starting the switch chain or more than 12 devices connected)
	X	off	☀	○	✳ 2 x	off	On	Fault on the safety outputs or on the start button (e.g. start configuration changed in operation, no/ erroneous signals from the switch chain, broken cable on one of the channels I_A or I_B, or short circuit/ ground fault on one of the cables I_A or I_B)
	X	off	☀	○	✳ 4 x	off	On	Fault on the safety relay, re-start device. If fault is still indicated, contact manufacturer.
	X	off	☀	○	✳ 5 x	off	On	Internal component fault, re-start device. If fault is still indicated, contact manufacturer.
	X	off	☀	○	✳ 6 x	off	On	- Fault in feedback loop, e.g. - feedback loop not connected on power up - missing jumper between Y1/Y2 **or** - Fault in the start button, e.g. - on autostart: jumper between S/U_B instead of S/ Y1 - Start button stuck
	X	off	☀	○	○	off	On	Start failed three times, contact manufacturer

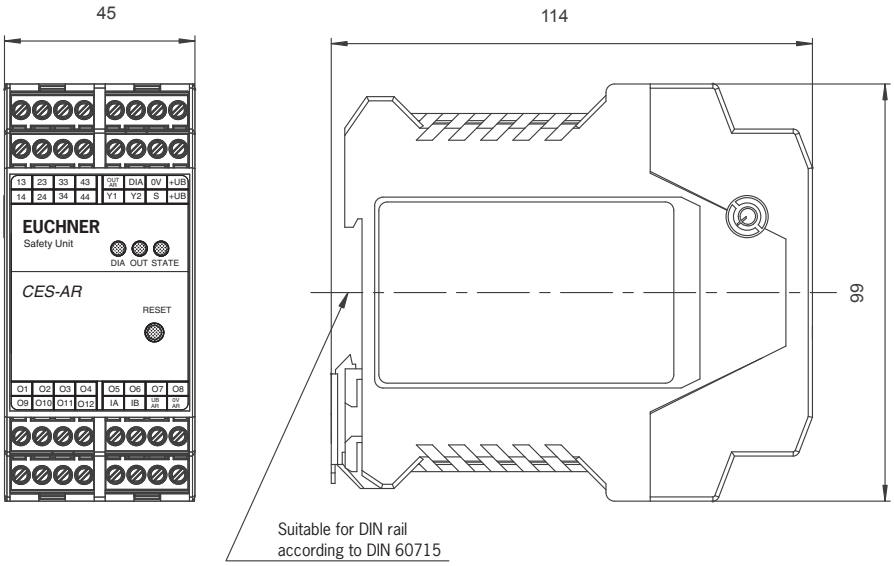
Key to symbols				
	○			LED not illuminated
	☀			LED illuminated
	✳ 15 Hz (8 s)			LED flashes for 8 seconds at 15 Hz
	✳ 3 x			LED flashes three times
	X			Any state

Technical data

Parameter	Value min.	Value typ.	Value max.	Unit
Housing material		Plastic PA6.6		
Dimensions		114 x 99 x 22.5		mm
Weight		0.25		kg
Ambient temperature at U_B = DC 24 V	-20	-	+55	°C
Atmospheric humidity, not condensing	-	-	80	%
Degree of protection according to EN 60529		IP20		
Degree of contamination		2		
Mounting		DIN rail 35 mm according to EN 60715		
Connection (plug-in screw terminals/coded)	0.14	-	2.5	mm^2
Operating voltage U_B (regulated, residual ripple < 5 %)		24 ± 10%		V DC
Current consumption I_B (with relay energized) [1]	-	1.2 [1]	-	A
External fuse (operating voltage U_B)	-	2.5	8	A gG
Safety contacts		4 (relays with internally monitored contacts)		
Switching current (relay outputs)				mA
- at switching voltage AC/DC 21 ... 60 V	1	-	300	
- at switching voltage AC/DC 5 ... 30 V	10	-	6000	
- at switching voltage AC 5 ... 230 V	10	-	5000	
External fuse (safety circuit) according to EN 60269-1		6 A gG or 6 A circuit breaker (characteristic B or C)		
Utilization category acc. to EN 60947-5-1		AC-12 60V 0.3A / DC-12 60V 0.3A AC-12 30V 6A / DC-12 30V 6A AC-15 230V 5A / DC-13 24V 5A		
Rated insulation voltage U_i		250		V
Rated impulse withstand voltage U_{imp}		4		kV
Resilience to vibration		In acc. with EN 60947-5-2		
Mechanical operating cycles (relays)		10×10^6		
Current via feedback loop Y1/Y2	5	8	10	mA
Permissible resistance via feedback loop	-	-	600	Ω
Monitoring outputs (O1 ... O12, DIA and OUT AR, semiconductor outputs, p-switching, short-circuit-proof)				
- Output voltage	0.8 x U_B	-	U_B	V DC
- Max. load	-	-	20	mA
- Switching frequency	-	1	-	Hz
Start button input S, test input TST				
- Input voltage LOW	0	-	2	V DC
HIGH	15	-	U_B	
- Input current HIGH	5	8	10	mA
Safety inputs IA, IB		2 (for CES-AR switch chain)		
Number of connectible safety switches		Max. 12		
EMC protection requirements		In acc. with EN 60947-5-3		
Reliability values according to EN ISO 13849-1				
as a function of the switching current at 24 V DC	**≤ 0.1 A**	**≤ 1 A**	**≤ 3 A**	
Category		4		
Performance Level (PL)		e		
PFH_d		1.5×10^{-8}		
Mission time		20		years
Number of switching cycles/year	720000	540000	107000	

1) Taking into account the load currents at the monitoring outputs (20 mA each)

Dimension drawing



System times for the AR system

Typical system times

Ready delay: After switching on, the unit carries out a self-test for 8 s. The system is ready for operation only after this time.

Risk time according to EN 60947-5-3: If an actuator leaves the operating distance, the safety contacts on the AR evaluation unit are opened at the latest after 520 ms.

Difference time: The safety contacts on the AR evaluation unit switch with a slight time offset. They have the same signal state at the latest after a difference time of 10 ms.

Important!

The system times shown are maximum values for a circuit arrangement with 12 safety switches connected in an AR switch chain. Shorter times can also be achieved in circuits with fewer switches.

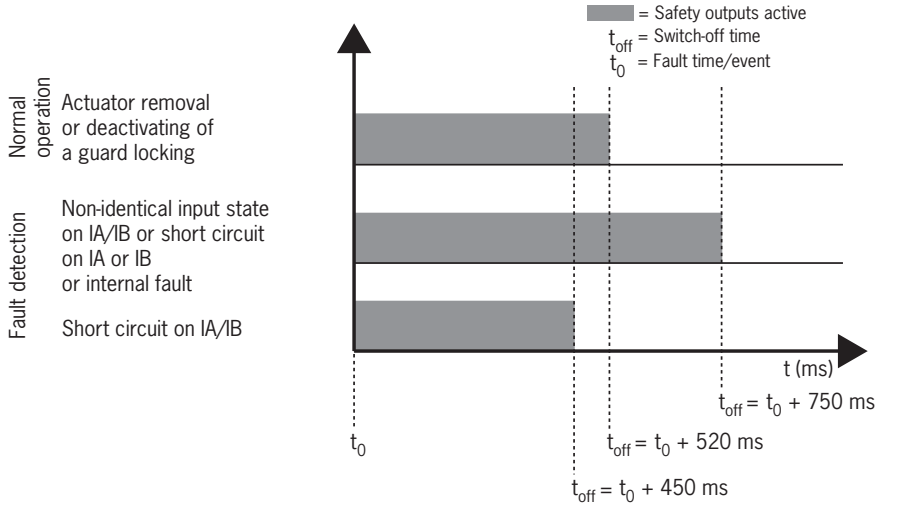

= Safety outputs active
t_{off} = Switch-off time
t_0 = Fault time/event
Normal operation
Actuator removal or deactivating of a guard locking
Fault detection
Non-identical input state on IA/IB or short circuit on IA or IB or internal fault
Short circuit on IA/IB
t (ms)
t_0
$t_{off} = t_0 + 450$ ms
$t_{off} = t_0 + 520$ ms
$t_{off} = t_0 + 750$ ms

Fig. 9: System times for AR evaluation unit on an AR switch chain with 12 safety switches

Ordering information and accessories

Check whether all parts are complete. The connection terminals are not included with the unit. Cables for connection of the AR switch chain must also be ordered separately. Refer to the operating instructions of the safety switches used.

The following parts are supplied:

- 1 AR evaluation unit *CES-AR-AES-12*
- Safety information and maintenance (please retain!)
- CD with operating instructions (please retain!)

Series	Category and PL according to EN ISO 13849-1 / Version	Order No.
AR evaluation unit CES-AR-AES-12	4 / PL e	**098225** CES-AR-AES-12
Connection set for AR evaluation unit CES-AR-AES-12	Plug-in screw terminals	**104776** CES-EA-TC-AK08-104776
	Plug-in spring terminals	**112629** CES-EA-TC-KK08-112629

For ordering information on connection components, please refer to the accompanying documents, safety switches used or current sales documentation.

You can obtain additional installation material or spare parts from EUCHNER.

Inspection and service

Danger!

Loss of safety function due to damage to unit or the connected safety switches. In case of damage the related component must be replaced.

Regular inspection of the following is necessary to ensure trouble-free long-term operation:

- Check the switching function
- Check the secure fastening of the devices and the connections
- Check for soiling (e.g. the ventilation slots on the housing)

No servicing is required, repairs to the device are only allowed to be made by the manufacturer.

Service

If service support is required, please contact:

EUCHNER GmbH + Co. KG
Kohlhammerstraße 16
D-70771 Leinfelden-Echterdingen
Service telephone:
+49 711 7597-500
E-mail:
info@euchner.de
Internet:
www.euchner.de

Declaration of conformity

More than safety.

CE

EUCHNER

EUCHNER GmbH + Co. KG
Kohlhammerstraße 16
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Germany

EG-Konformitätserklärung
EC-Declaration of Conformity
CE-Déclaration de Conformité
CE-Dichiarazione di conformità
CE-Declaración de Conformidad

Original DE
Translation EN
Traduction FR
Traduzione IT
Traducción ES

109923-06 -11/12

Die nachfolgend aufgeführten Produkte sind konform mit den Anforderungen der folgenden Richtlinien (falls zutreffend):
The beneath listed products are in conformity with the requirements of the following directives (if applicable):
Les produits mentionnés ci-dessous sont conformes aux exigences imposées par les directives suivantes (si valable)
I prodotti sotto elencati sono conformi alle direttive sotto riportate (dove applicabili):
Los productos listados a continuación son conforme a los requisitos de las siguientes directivas (si fueran aplicables):

I:	2006/42/EG	Maschinenrichtlinie
	2006/42/EC	*Machinery directive*
	2006/42/CE	*Directive Machines*
	2006/42/CE	*Direttiva Macchine*
	2006/42/CE	*Directiva de máquinas*
II:	2004/108/EG	EMV Richtlinie
	2004/108/EC	*EMC Directive*
	2004/108/CE	*Directive de Compatibilité électromagnétique*
	2004/108/CE	*Direttiva EMV*
	2004/108/CE	*Directiva CEM*

Die Schutzziele der Niederspannungsrichtlinie wurden gemäß Anhang I, Nr. 1.5.1 der Maschinenrichtlinie eingehalten.
The safety objetives of the Low-Voltage Directive comply with Annex I, No. 1.5.1 of the Machinery Directive.
Les objectifs de sécurité de la Directive Basse Tension sont conformes à l'annexe I, No. 1.5.1 de la Directive Machines
Gli obiettivi di sicurezza della Direttiva Bassa Tensione sono conformi a quanto riportato all'allegato I, No. 1.5.1 della Direttiva Macchine.
Los objetivos de seguridad de la Directiva de Bajo Voltaje cumplen con el Anexo I, No. 1.5.1 de la Directiva de Máquinas

Folgende Normen sind angewandt:	a:	EN 60947-5-3:1999 + A1:2005
Following standards are used:	b:	EN 1088:1995+A2:2008
Les normes suivantes sont appliquées:	c:	EN ISO 13849-1:2008
Vengono applicate le seguenti norme:	d:	EN ISO 13849-2:2008
Se utilizan los siguientes estándares:		

Bezeichnung der Sicherheitsbauteile *Description of safety components* *Description des composants sécurité* *Descrizione dei componenti di sicurezza* *Descripción de componentes de seguridad*	**Type** *Type* *Type* *Tipo* *Typo*	**Richtlinie** *Directives* *Directive* *Direttiva* *Directivas*	**Normen** *Standards* *Normes* *Norme* *Estándares*	**Zertifikats-Nr.** *No. of certificate* *Numéro du certificat* *Numero del certificato* *Número del certificado*
Sicherheitsschalter *Safety Switches* *Interrupteurs de sécurité* *Finecorsa di sicurezza* *Interruptores de seguridad*	CES-AP-CL2-AH-SF CES-AP-CR2-AH-SF CES-AP-CL2-CH-SF CES-AP-CR2-CH-SF CES-AP-CL2-AH-SB CES-AP-CR2-AH-SB CES-AP-CL2-CH-SB CES-AP-CR2-CH-SB CES-AP-CL2-AH-Lxx CES-AP-CR2-AH-Lxx CES-AP-CL2-CH-Lxx CES-AP-CR2-CH-Lxx	I, II	a, b, c, d	ET 12056
	CES-AP-C01-CH-SA	I, II	a, b, c, d	ET 12084
	CES-AR-C01-AH-SA CES-AR-C01-CH-SA CES-AR-C01-EH-SA	I, II	a, b, c, d	ET 12084
	CES-AR-CL2-AH-SA CES-AR-CR2-AH-SA CES-AR-CL2-CH-SA CES-AR-CR2-CH-SA CES-AR-CL2-AH-SG CES-AR-CR2-AH-SG CES-AR-CL2-CH-SG CES-AR-CR2-CH-SG CES-AR-CL2-AH-Lxx CES-AR-CR2-AH-Lxx CES-AR-CL2-CH-Lxx CES-AR-CR2-CH-Lxx	I, II	a, b, c, d	ET 12066

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Betätiger *Actuator* *Actionneur* Azionatore *Actuador*	CES-A-BLN-L2 CES-A-BLN-R2 CES-A-BLN-U2 CES-A-BDN-06	I, II	a, b, c, d	ET 12056 ET 12066
	CES-A-BBA CES-A-BCA CES-A-BPA CES-A-BDA-20 CES-A-BRB CES-A-BRN	I, II	a, b, c, d	ET 12084 ET 10147

Benannte Stelle *Notified Body* *Organisme notifié* *Sede indicata* *Entidad citada*	NB 0340 DGUV Test Prüf- und Zertifizierungsstelle Fachausschuss Elektrotechnik Gustav-Heinemann-Ufer 130 50968 Köln Germany

Bezeichnung der Sicherheitsbauteile *Description of safety components* *Description des composants sécurité* *Descrizione dei componenti di sicurezza* *Descripción de componentes de seguridad*	**Type** *Type* *Type* *Tipo* *Typo*	**Richtlinie** *Directives* *Directive* *Direttiva* *Directivas*	**Normen** *Standards* *Normes* *Norma* *Estándares*	**Prüfbericht** *Test report* *Rapport du test* *Rapporto di prova* *Informe de prueba*
Sicherheitsschalter	CES-AH-C.3...	I, II	a, b, c, d	Euchner QS PB 21/2010
Safety Switches *Interrupteurs de sécurité*	CES-AP-C.1...	I, II	a, b, c, d	Euchner QS PB 76/2010
Finecorsa di sicurezza	CES-I-AP-C04...			UQS 116783
Interruptores de seguridad	CES-FD-AP...			UQS 116784
Auswertegerät *Safety Unit* *Analyseur* *Centralina* *Unidad de evaluación*	CES-AR-AES-12	I, II	a, b, c, d	Euchner PB 53/2007

Leinfelden, November 2012

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